

CLAIMS:

1. A method for forming an elongated fused quartz article comprising:

feeding a generally  $\text{SiO}_2$  material into a furnace;

fusing said  $\text{SiO}_2$  material in a melting zone of said furnace a gas  
5 atmosphere comprising at least one carrier gas and an oxidizing gas; and

drawing the fused  $\text{SiO}_2$  material from the furnace to form said article.

2. The method of claim 1 wherein said melt zone comprises refractory  
material walls having a lining of a material selected from rhenium, osmium, iridium,  
platinum and mixtures thereof.

10 3. The method of claim 1 wherein said carrier gas is hydrogen or a  
noble gas.

4. The method of claim 1 wherein said oxidizing gas is water vapor.

5. The method of claim 1 being a continuous process.

6. The method of claim 1 wherein said article is a tube.

15 7. The method of claim 1 wherein said article is a rod.

8. The method of claim 2 wherein said refractory material is  
comprised of tungsten, molybdenum or mixtures thereof.

9. The method of claim 2 wherein said protective lining material comprises rhenium.

10. A furnace for melting silica for fusion into a desired shape, said furnace comprising a body having a melting zone and a drawing zone, said melting  
5 zone including a gas feed inlet for introducing an oxidizing gas.

11. The furnace of claim 10 wherein said melting zone comprises walls of a refractory material including an inner barrier.

12. The furnace of claim 11 wherein said barrier layer comprises rhenium, osmium, iridium and mixtures thereof.

10 13. The furnace of claim 12 wherein said refractory material comprises tungsten, molybdenum or mixtures thereof.

14. The furnace of claim 11 wherein said barrier layer provides a sealed chamber within said refractory material walls, said gas feed inlet opening into said sealed chamber.

15 15. The furnace of claim 1 wherein said barrier layer is physically separated in at least some areas from said refractory material walls.

16. The furnace of claim 15 including a gas feed inlet for introducing between the barrier layer and the refractory material walls.

17. A quartz article produced according to the method of claim 1.

18. An optical fiber including a sheath comprised of the article of claim 17.